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Leiomyoma of the bladder causing bilateral hydronephrosis: a case report

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LEIOMYOMA OF THE BLADDER CAUSING BILATERAL HYDRONEPHROSIS: A CASE REPORT

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We report a case of bladder leiomyoma with marked bilateral hydronephrosis caused by chronic urinary retention. Surgical finding was that the mass was smooth, fist-sized and had a thin stalk connected to the bladder wall. The tumor was completely removed. Histopathological diagnosis was leiomyoma of the bladder and the post-operative course was uneventful.

Key words: Leiomyoma, Bladder

INTRODUCTION

Leiomyomas generally occur in female genital organs. The urinary bladder is rarely affected by them.

It is important to make correct pre-operative diagnosis by using various diagnostic methods because the prognosis is excellent when it is treated properly. We encountered a rare case of bladder leiomyoma with marked dilatation of the bilateral upper urinary tracts caused by chronic urinary retention.

CASE REPORT

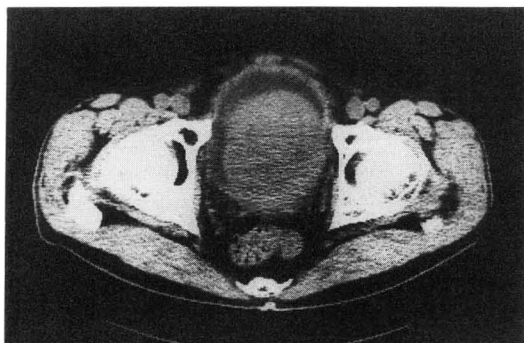
A 65-year-old man was referred to our clinic with complaints of pollakisuria and gross hematuria. There was 650 ml of residual urine and the blood chemistry indicated renal failure. A balloon catheter was inserted in the bladder. A computerized tomography scan (C.T.) of the lesser pelvis, performed at the patient's former clinic, showed a fist-sized intravesical mass involving the posterior and left lateral wall of the bladder, protruding into the vesical cavity, as well as bilateral hydronephrosis (Fig. 1 A, B). The patient's past history revealed that he had suffered from dysuria and gross hematuria

13 years ago, but they ceased with the use of internal medicine and injections.

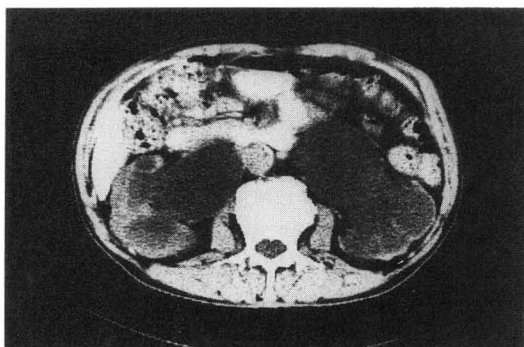
The physical examination revealed negative finding. A transrectal examination revealed that the prostate was not enlarged. A blood count revealed orthochromic anemia with a hemoglobin level of 8.2 g/dl. Blood chemistry and renal function tests showed moderate renal failure. Prostatic acid phosphatase (PAP) was slightly elevated. Urinalysis showed pyuria but a urine culture was negative. Excretory urography showed severe dilatation of the right upper urinary tract and a left pyeloureterogram was not obtained (Fig. 2). Retrograde urethrography confirmed the presence of a large intravesical mass which was the size of a fist (Fig. 3 A, B). A cystoscope could not pass through the bladder neck. Therefore, a punch biopsy was not preoperatively conducted. Urine cytology was class III. The clinical diagnosis was an intravesical mass and consent for surgery was obtained.

During the operation, a fist-sized pedunculated smooth mass was found in the bladder. It was connected to the posterior portion of the inner urethral orifice of the bladder wall by a thumb-sized stalk. The mass was found to be elastic, soft

and uniformly whitish in color. Bladder mucosa did not exist on the surface of



A



B

Fig. 1. (A) CT scan shows a fist-sized intravesical mass. (B) CT scan shows bilateral hydronephrosis.

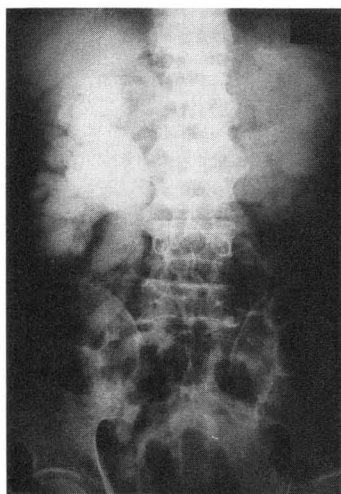
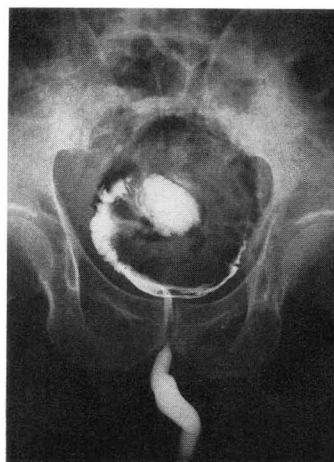


Fig. 2. Excretory urography shows severe dilatation of the right upper urinary tract and left pyeloureterogram is not obtained.



A



B

Fig. 3. (A, B) Retrograde urethrography shows the presence of fist-sized, smooth intravesical mass.

the tumor. It was concluded to be benign and tumor enucleation was performed. The gross specimen weighed 250 g. The cut surface was uniformly whitish in color and no findings were present to indicate malignancy.

Microscopically, the transitional cells were scarcely observed on the surface of the tumor. Chronic inflammation existed with marked proliferation of vessels at the tunica propria. A fascicular arrangement of the smooth muscle cells was seen. There was abundant stroma around these muscle cells at the submucosal area. Cytological atypia and mitotic figures were absent. Diagnosis was leiomyoma of the

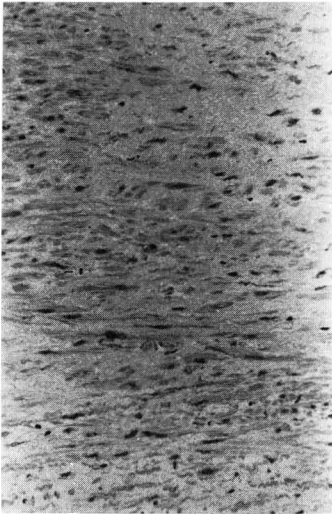


Fig. 4. Microscopic examination shows leiomyoma of the bladder (H.E., $\times 33$).

bladder (Fig. 4).

Twenty months later the patient remains well and free of recurrence.

DISCUSSION

Nonepithelial bladder tumors are rare. They make up 0.3~5.0 % of all bladder tumors¹⁾. Leiomyoma is the most common, ranging from 20.0~35.2 % of benign mesothelial bladder tumors and constitutes 0.2~0.5% of all bladder tumors^{2,3)}. It is said to be more common in females, with a 3:1 distribution ratio⁴⁾. The highest incidence occurs in people between 30 and 50 years of age⁵⁾.

The tumors are categorized into three groups, endovesical, intramural and extravesical. The endovesical form is the most frequent, occurring in 63 % of all cases, followed by extravesical (30%) and intramural (7%)⁶⁾. The weight has ranged from a few grams to as large as 9 kg⁷⁾.

Macroscopically, the tumor is roundish, has lumpy nodules and is whitish or shiny pink in color⁵⁾. The clinical symptoms and signs vary depending on the site and the size of the tumor. The endovesical forms may be sessile or pedunculated and covered by normal bladder mucosa⁵⁾. In our case the bladder mucosa was thought to have peeled off because of the large size of the tumor compared to the small size of its stalk. They may present vesical

irritation, infection, gross hematuria or dysuria^{8,9)}. Cases which showed urinary retention because of an obstruction of the bladder outlet have previously been reported, in addition our cases deals with such a condition⁹⁻¹¹⁾. Extravesical forms usually remain asymptomatic for some time¹²⁾. They may be detected by physical examination, cystoscopy or incidentally in the midst of surgery done for other causes¹³⁾. Palpable masses or disorders due to the compression by the tumor may be the chief complaint when it grows to a certain size⁹⁾. Rare cases in which the tumor has prolapsed from the urethra have been reported¹⁴⁾.

The diagnostic means for detecting the tumors include cystoscopy, intravenous urography, cystourethrography, ultrasonography and computerized tomography (C.T.). In intravenous urography or cystourethrography, the bladder may show a filling defect but with a smooth outline. The existence of ulcerations or cystitis, however, results in an irregular mucosal surface¹⁵⁾. Ureter displacement or dilatation of the upper urinary tract is sometimes observed because of the obstruction or the compression of the urinary tract by the tumor^{5,10,12)}. In our case, bilateral hydronephrosis was caused by chronic urinary retention due to the obstruction of the bladder outlet by the tumor. Ultrasonography and C.T. are useful in determining the consistency, size, location and relationship of the tumor with adjacent organs^{15,16)}. The final diagnosis is made by histological examination.

The principle of the treatment is complete resection of the tumor. Small endovesical tumors can be removed well with transurethral resection. Large endovesical, intramural or extravesical tumors are best managed by open surgery, such as enucleation or partial cystectomy^{5,8)}. Ureteral reimplantation may sometimes be necessary¹⁷⁾.

The prognosis is excellent if the tumor is completely removed. In open surgery, thorough palpation of the vesical wall is imperative in order not to overlook small

nodules⁵⁾. Lake et al have reported the only case of recurrence after the enucleation of the tumor¹⁾. No malignant degeneration has been reported¹⁸⁾.

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和文抄録

両側水腎症をきたした膀胱平滑筋腫の1例

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慢性的な尿閉により著明な両側水腎症をきたした膀胱平滑筋腫症例を報告した。手術所見では、腫瘍は平滑、手拳大であり、膀胱壁とは細い茎により連続していた。茎を切断し、腫瘍を完全に摘出した。診断は膀胱

平滑筋腫であった。予後は良好で、20ヵ月後の現在再発なく外来通院中である。

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